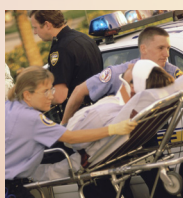


AMERICAN ASSOCIATION
OF STATE HIGHWAY AND
TRANSPORTATION OFFICIALS
AASHTO



Managing Catastrophic Transportation Emergencies: A Guide for Transportation Executives

September 2015

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Foreword

Congratulations on being appointed as the CEO of your organization. This can be one of the most powerful and exciting opportunities in your career. Your time in public service will be critical to those you serve, even though it may often go unseen.

At some point during your tenure, you will be called upon to deal with a major emergency or disaster. One need only watch the evening news to become aware of the potential for loss of life and devastation that can occur as the result of manmade or environmental incidents and disasters such as floods, storms, fires, earthquakes, terror events, and others. When it does happen, the day-to-day methods that you use in your operation will be insufficient to handle the emergency.

To help you navigate and prepare for the day you will be faced with these events, we prepared this guide to assist you in getting a quick understanding of what tools and people you will have at your disposal. The guide acquaints you with not only the kinds of events you will face but also the process of preparing your agency to be ready to respond to them.

Most importantly, it brings you advice from your peers, current and former, who have faced similar situations. More than ten were interviewed and willingly shared thoughts they felt would help you deal with the event successfully.

We think spending a few minutes reviewing this short guide will help you shape your thinking and recognize very quickly where you will want to place effort given the many demands on your time.

Sincerely,



John Cox
Director
Wyoming Department of Transportation



Brian Ness
Director
Idaho Transportation Department
Chair, AASHTO Special Committee on
Transportation Security and Emergency
Management



Preface

To the Executive

During your tenure as the Chief Executive of a state DOT, transit agency, or other transportation organization, you will likely be called upon repeatedly to manage your agency's response to and recovery from a major emergency, event, or disaster. The emergency may consist of a short-duration, simple, static, and singular incident; or it may be prolonged, complex, and dynamic, impacting multiple fronts and requiring deployment of extensive assets and resources.

The need for emergency-incident response or recovery may be due to inclement weather, in the aftermath of a serious highway accident or train derailment, or caused by a significant security threat or breach. Additionally, the same planning required for incident response is needed to manage a planned special event effectively, such as an annual holiday celebration and parade, a PGA golf tournament, or a political convention.

Establishing the capability to manage and direct "All-Hazards" transportation emergency response and recovery effectively, irrespective of the incident type, demands preplanning, resourcing, and staging of assets and coordination internally and with other affected external agencies, companies, groups, and personnel. When an emergency occurs, routine day-to-day operations give way to a focused, practiced, and resilient crisis management approach that requires professional skills throughout the breadth and depth of the organization.

As a new CEO, you may initially be unfamiliar with your agency's critical role and capabilities in preparing for, responding to, and recovering from an emergency situation. This Guide was developed to assist you in the transition and is based on the thoughts and advice of transportation leaders who have been in similar positions. Former and current transportation executives were interviewed to gain practical understanding of CEO roles and actions during emergency events. Insights were also obtained from a review of relevant literature and information about actual emergency events that impacted transportation. Quotes from the interviews are incorporated into the Guide with a summary of the interviews found in Appendix A.

The Guide is organized first to provide basic information about the types of emergency incidents and events that impact transportation agencies. Next, managing these events is discussed, along with an overview of the types of questions and issues that should be considered to assist the agency in preparing for "All-Hazards" emergency incidents. The Guide also provides additional information about where to locate more detailed reference materials pertaining to transportation agency emergency management.

Managing Catastrophic Transportation Emergencies: A Guide for Transportation Executives is a reference guide specifically designed for use by newly appointed executive-level leaders of transportation organizations. It has been written to provide executive decisionmakers with important leadership-level information about emergency management major-event response and recovery.

Table of Contents

Introduction	3
Types of Emergency Incidents and Events	5
Assessing the Organization and Its Capabilities	9
CEO Roles and Responsibilities	13
Preplanning Guidance: The Right Questions to Ask	15
Appendix A: Summary of CEO Interviews	17
Appendix B: Federal Initiatives and Strategies	27
Appendix C: Additional Resources to Review	33
Appendix D: Terms and Definitions	37
Appendix E: Acronyms	41
Appendix F: Staff Resources and Tools	45



Introduction

During one transportation CEO's tenure, there were four major snowstorms, two major tornados, and a flood event spanning the longest duration in U.S. history. Another CEO experienced the "perfect storm" in his first emergency response situation—the loss/retirement of critical experienced staff, inaccurate information, and new leadership that was not prepared—that turned a localized weather event into a statewide emergency, stranding hundreds of trucks and motorists for more than 20 hours and closing major highways for four days. As these examples demonstrate, learning emergency response "under fire" is an all-too-common experience.

"I learned emergency response under fire."

Senior executives who lead state departments of transportation (DOTs) have the responsibility of planning, delivering, operating, and maintaining a transportation network that includes over four million miles of roads serving local, regional, and national travel needs, along with many rail lines, bus and rail transit systems, ferries, ports, and waterways. An agency's emergency preparedness capabilities—preparing for, responding to, and recovering from a major event—are critical to safe and efficient operation of the nation's transportation network.

The agency you are leading, one of 52 across the nation, has been on the leading edge of a transition to a new way of thinking and approach to services. Transportation is no longer focused on building the nation's infrastructure, as it had been for nearly 200 years. Over the last 15 years, agencies through American Association of State Highway and Transportation Officials (AASHTO) have been focused on understanding, inventing, and implementing a refocused mission and serving the nation's transportation needs. To get a sense of this changing environment, consider three major initiatives that DOT agencies are pursuing.

1. Beginning in 1995, DOTs across the country began to investigate and implement a new approach to managing pavements, bridges, and other assets using principles adopted from the private sector in an approach that has come to be known as **Asset Management**. Agencies are moving to employ life-cycle costing as a decision-making aid in doing their business. This addition to the planning and investment process has helped bring closer together the engineering, financial, innovative finance, and political communities. Most agencies now use these principles in making difficult investment decisions with increasingly limited funds.
2. At the turn of the Century, recognizing that their mission was no longer building major transportation

Five fundamental responsibilities in security and emergency response:

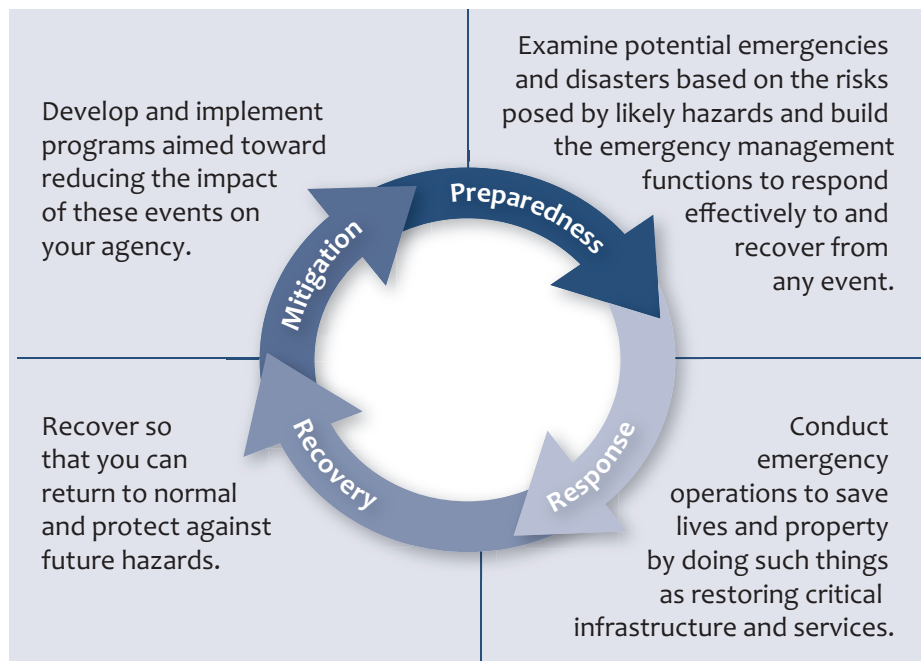
1. Prevent incidents within your control and responsibility;
2. Protect transportation users, agency personnel, and critical infrastructure;
3. Support regional, state, and local emergency responders with resources including facilities, equipment, and personnel;
4. Recover swiftly from incidents; and
5. Evaluate response(s) and continually improve plans, training, skills, and protocols.

Source: AASHTO

networks, transportation agencies began to explore what it would mean to be a 21st Century Operations-Oriented DOT. The focus of this work has been on how to operate a transportation system and how to convert agency staffing and processes to support the emerging mission. This effort has resulted in a broad body of work in understanding organizational readiness, staff training programs, improving customer service, and traffic management programs. The end result of much of the effort is to improve the reliability of the transportation network through improved operations.

3. As a result of the events of 9/11 and a long-term commitment to the use of technology and the work surrounding improving operations, agencies are now implementing a new focus on Emergency Response and their role in homeland security. Transportation plays a critical and unique role in emergency response. As the National Response Framework (NRF) states, “The ability to sustain transportation services, mitigate adverse economic impacts, meet societal needs, and move emergency relief personnel and commodities will hinge on effective transportation decisions at all levels.” Transportation’s unique role stems from the broad range of capabilities and responsibilities a transportation agency has: large and distributed workforces, easy access to heavy equipment, and a robust communications infrastructure. In most states, the only other agency capable of mobilizing personnel and equipment, in quantity, to plan for or respond to any emergency may be the National Guard.

These initiatives bring into sharp focus the critical role a transportation CEO plays, particularly as a leader in emergency response planning and operations. A state governor expects the DOT to respond to a disaster or emergency and simultaneously handle day-to-day responsibilities. Meeting these expectations requires CEO leadership; engagement of skilled employees; and critical, targeted investment in technology, people, and infrastructure.



To be ready for the agency’s role, a CEO needs to ensure that a comprehensive emergency management program is in place within the agency. The four phases of emergency operations—Preparedness, Response, Recovery, and Mitigation—are summarized in Figure 1. A state DOT must be prepared for risks that cannot be eliminated and be prepared to deal with the consequences of actual events and to recover from those events.

Figure 1. Phases of Emergency Operations

Types of Emergency Incidents and Events

The term “all hazards” includes a broad range of incidents and events that have potential to impact transportation systems operations. Figure 2 illustrates the types and frequency of events that transportation agencies may encounter. These events may require coordination with other agencies (local, state, and federal) depending on the severity or complexity of the incident.

Planned activities range from frequent local or regional events such as sporting events, concerts, and parades to less frequent National Security Special Events (NSSE) such as political conventions and presidential inaugurations.

Weather-related incidents span the range of predictability with extreme weather events increasing in frequency. Weather events not only disrupt service but can also damage infrastructure.

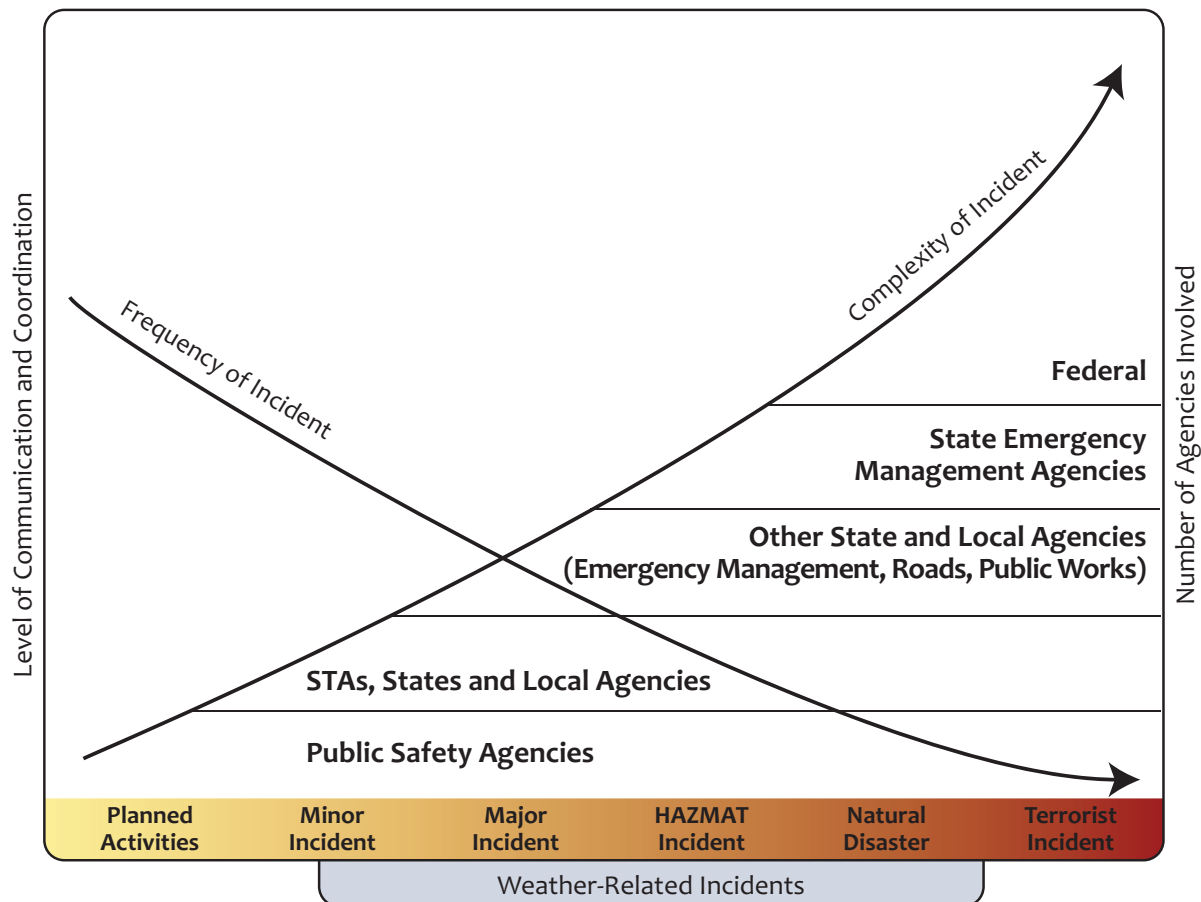


Figure 2. Agency Involvement by Incident Level

Source: NCHRP 525 Vol. 6, *Security Guide for Emergency Transportation Operations*.



Transportation plays a critical role in an emergency situation. Other state agencies rely on your DOT to provide support during a major disaster. As a former executive director said, “Our focus is simple. We will provide the road to safety, we will clear the road to recovery, and we will maintain the road home.”

As the CEO, you need to “know what is out there.” Understand what types of events are likely to occur in your state and what potential impacts those events can have on your agency. By anticipating the events and the potential impacts, you can plan in advance and be prepared when the events occur.

Because other local, state, and federal agencies may be involved along with your agency, you as CEO need to understand the specific procedures and protocols that have been established for managing emergencies and ensuring that your staff stays current regarding the applicable state and national standards for emergency preparedness and response. The federal government expects state DOTs to incorporate principles and concepts of national initiatives that provide common approaches to incident management and response in emergency response plans and operations. National initiatives include the National Response Framework (NRF) with its designed emergency support functions (ESFs) and the National Incident Management System (NIMS) with its protocols for multiagency interaction and communication. State and local NIMS compliance is a prerequisite for federal preparedness funds. An overview of key initiatives and their implications for transportation agencies is provided in Appendix B.

What You NEED TO KNOW

- State DOTs must be prepared to effectively respond to and quickly recover from many types of events.
- State and regional agencies rely on the DOT to provide support during response to an emergency event. Transportation is Emergency Support Function (ESF) #1 for a reason.
- State DOTs must use Incident Command System (ICS)/National Incident Management System (NIMS) to maintain federal funding.
- NIMS integrates best practices into a comprehensive framework for use by emergency management personnel nationwide.

What YOUR RESPONSIBILITIES Are

- Assess risks and impacts of potential events.
- Plan for multiagency response.
- Ensure that your agency understands response protocols.
- Provide input on priorities, goals, and direction.

What you NEED TO DO

- Maintain awareness of events that are likely to occur and their potential impacts on your agency. Learn from the agency's historical critical events.
- Understand the sensitivity of system assets, infrastructure, and services to different types of events.
- Monitor likely problem areas and explore mitigation and resiliency strategies to minimize the impact.
- Create and maintain a Response and Continuity of Operations Plan consistent with the requirements of the federal government.

Figure 3. What You Need to Know About the Types of Emergency Incidents and Events



Assessing the Organization and Its Capabilities

Success in dealing with a critical situation results from a combination of the extent to which your agency is prepared to deal with the situation and your relationship with those responsible for executing the plans. As a CEO, you need to develop solid relationships with key operations staff and give them confidence that they have your trust. To do this, you must know who they are and what they do. This section provides questions to ask of your DOT staff to find out who is who and what the current organizational capabilities are.

Each state transportation agency may have its own view but, in general, you as CEO are responsible for three items and should hold your staff accountable for:

1. An agency-wide Emergency Operations Plan that gets reviewed and updated on a regular basis.
2. A training and exercise program of annual or greater frequency that involves the State Director in at least one exercise.
3. A Continuity of Operations (COOP) Plan and a COOP site whose capabilities are assessed on a regular basis.

Your agency needs to ensure that it has these items in place and that staff know how to implement the plans and what to do BEFORE the event occurs. Experience with actual emergencies may be lost as key staff retire or move to other positions. Since your DOT's plans and procedures complement the state's overall emergency structure and plans, you need to be familiar with the state and regional emergency management community and ensure that your agency's plans are coordinated with theirs.

During an event, the success of any response depends largely on the strength of relationships among local law enforcement, emergency response personnel, and DOT local staff. As a CEO, you need to understand the extent of current relationships and how your agency can cooperate more effectively with emergency responders and law enforcement.

Along with learning the capabilities of the organization, as CEO you need to know its limits. Knowing what work can be done by DOT employees and what work must be contracted out to others is critical to the effectiveness of your response.

“An important leadership approach is to be more focused on having the ‘right people with the right mindset’ than to have volumes of procedures that may or may not be read.”

“Manuals and workshops, while helpful, are less important than knowing key staff, how to reach them when needed, and what they can do with the resources they have when the emergency happens.”

Based on advice from others who have been in the position, to be successful, as CEO you must:

- Have confidence in key maintenance/operations personnel and give them the freedom to respond based on their own initiative.
- Reinforce to staff that you trust them and will work with them to make the operation better.
- Use what is in place and what the agency has even if you did not create it.

What You NEED TO KNOW

- Your organization's structure and key people are critical to being prepared.
- As CEO, you need to know and understand staff expectations before, during, and after emergencies.
- Good communication and teamwork is a key to good response.
- Some decisions need to be made before an emergency, some during the event based on the situation, and some after an emergency during recovery and after-action analysis.
- The capabilities and limits of your agency both enable and bound its response.
- Organizational roles and missions support agency and state plans.

What YOUR RESPONSIBILITIES Are

- Know your staff and listen to their needs.
- Have a plan for response and the means by which to pass it on to the next generation leadership.
- Understand the importance of training and exercises to maintain the plan and practice its use.
- Support and motivate the team.

What you NEED TO DO

- Develop solid relationships with key operations staff. Reinforce that you trust them and will work with them to make the operation better.
- Learn what your agency needs to do before, during, and after an emergency.
- Make sure you have a plan for response and staff who are charged with maintaining the plan and have been trained on its use.
- Be prepared. Understand your agency and state plans and the organizational roles and missions in support of those plans.
- Create a culture which rewards individual initiative.
- Ride with field response staff to better understand their jobs.
- Learn before you speak.... Trust before you criticize.

Figure 4. What You Need to Know About Assessing the Organization and Its Capabilities

Questions to Quickly Assess Your Organization and Its Capabilities

Roles/Responsibilities

- Who at my agency is responsible for security and emergency preparedness?
- Do all of my organization's senior managers know their responsibilities and are they prepared for an event situation?
- Who is responsible for plans and responses at the working level? Ask for names and numbers of staff who actually perform the work in the state's Emergency Operation Center (EOC). Ask for nonworking hours contact information.
- Where is emergency response staff physically located within the DOT? Visit the DOT sites where your staff works.
- What does your staff want you to do when there is a significant event?

Capabilities/Resources

- Does your agency have plans in place to respond to various classes of emergencies? Are the plans effective and regularly updated?
- Are plans, documents, and contact lists updated semiannually/annually? Are the documents easily available online? Are there a sufficient number of paper copies available?
- Do your incident response staff have back-up relief to sustain 24/7 coverage for an extended period of time?
- Does your agency have an adequately equipped alternative command center/location from which to operate should it lose access to its primary facilities and equipment?
- Could your agency handle two significant emergency situations simultaneously?
- What types of resources are available for emergencies?
- Does your agency have the proper equipment to respond to an incident?
- What types of equipment, including specialized equipment such as SATCOM, airborne remote sensing platform, bucket loaders, backhoes, or forklift loaders with clamshell attachment, are available?
- Are contracts in place with vendors to acquire needed supplies or services in an emergency? If not, is a list of prequalified contractors available? Can your agency establish these contracts or are there bureaucratic, administrative, or legal hindrances?
- Have expedited procedures been established for emergency situations?

Communication/Coordination

- Is there adequate communication and coordination between your agency's headquarters and local units in an emergency situation?
- How can your agency cooperate more effectively with emergency responders, law enforcement, and others?
- How well does your agency coordinate with local governments? Are there geographic locations of concern?
- What are the communication and coordination protocols with your governor's office and your state's emergency management organization in an emergency situation?
- Is your agency's communications equipment interoperable with that of other agencies with whom you need to communicate?

Training/Continual Improvement

- Does your agency practice and/or train for all classes of emergencies?
- How do you document lessons learned from incidents?
- How do you document lessons learned from training and exercises?



CEO Roles and Responsibilities

During emergencies, as a transportation CEO, you have a number of roles: operations leader, political leader, spokesperson, and local/regional partner.

As operations leader of the DOT, you set your agency's agenda and must establish priorities for planning for and responding to emergencies. Your agency's reputation and its funding may be based on how the DOT responds. As a CEO, you need to set internal expectations and support the staff as they strive to meet those expectations. It is important to stay in touch with the overall big picture without getting overly focused on the operational details. It is important to keep in mind this advice from one of your peers: "Things never go perfect in a major event. There are always issues, so don't throw staff under the bus. You will have a much stronger organization by doing such."

"During an event, be visible to put a face on the response. The public wants to know someone is in charge and that there is leadership that is concerned about them. Also, to let the employees know you trust them and are there to support them."

As a political leader, your role as a transportation CEO is distinct and different from that of the governor and other elected officials. You need to understand the political implications of the event and provide guidance to the elected official (typically the governor) to whom you report in order to, as one of your peers has advised, "ensure that we were not stepping into a political mine field." To be effective, you must have the full confidence of the governor and understand how to address the political requirements so that the professionals in your agency can perform their jobs.

As the DOT CEO, you may be the public face of your state's response to an event, especially if it involves damage to or destruction of critical transportation infrastructure or requires closing major transportation facilities. Make sure that effective communications mechanisms and people are in place so that your agency can communicate regularly and competently with all stakeholders. This is critical for both your governor and the public. Given the speed and frequency with which communication travels in today's environment, communicating regularly and often means multiple times per day. You personally do not need to be the communicator in all cases, but you must insist on this pattern to be effective.

"The CEO must focus on clear and correct information and the long-term reputation of the organization."

As a public entity in a crisis, your agency may be inundated with requests for public information. Be proactive by releasing relevant and related public data prior to requests. Demonstrating a commitment to honest transparency with information and public data can help build and maintain your agency's reputation during a crisis.

During an event, your DOT sits at the nexus of multiple stakeholders, resources, authorities, and responsibilities. As CEO, you need to understand these relationships and how best to manage them during emergencies.

You will need to be the advocate for your DOT with other agencies so they can understand DOT capabilities and resources. To do this, you must establish relationships BEFORE an event happens with the leadership in partner agencies both within your state and in neighboring states, since some emergencies are regional and require multi-state coordination.

What You NEED TO KNOW

- DOT reputation and funding may be based on how your DOT responds when the major incident or weather event occurs.
- The full confidence of the elected official (typically the governor) is critical.
- Demonstrating that someone is in charge of the crisis AND that the agency's primary goal is to do whatever is necessary to protect public safety and/or address the needs of injured parties is important.
- A commitment to honest transparency will help build and maintain your organization's reputation during a crisis.
- Partnership and relationship are critical at all levels in the emergency response community. Remember: "if they know you...they will trust you".

What YOUR RESPONSIBILITIES Are

- Focus on the long-term reputation of your DOT.
- Communicate clearly and correctly.
- Understand the importance of dealing with politics.
- Advocate for your agency with the governor and with other agencies.
- Support your partner agencies.

What you NEED TO DO

- Be visible early in a crisis. Empathy is critical.
- Communicate regularly and often with all stakeholders. "Communicate and then communicate that you communicated."
- Understand and build on the relationships among various stakeholders, resources, authorities, and responsibilities.
- Establish solid relationships with the leadership in partner agencies, both within the state and in neighboring states.

Figure 5. What You Need to Know About Your Roles and Responsibilities During an Emergency

Preplanning Guidance: The Right Questions to Ask

Here are some important questions to ask to ensure that your agency is at the ready and continually resilient for when the next emergency occurs.

Planning/Preparedness

- What is your system's current level of security and preparedness?
- How many real-time disasters have you responded to during the last two to five years?
- Does your agency have plans in place to respond to various types of emergencies?
- Are state emergency response plans current and adequate?
- Are the response programs centralized or decentralized?
- What additional threats should you consider for your operations?
- How are your state's functions and emergency management agencies coordinated?
- What are the role and authority of the governor's immediate staff?
- How is your state's fusion center organized?
- Are critical IT systems included in the COOP?

Communications/Coordination

- What agency is responsible for your state's communications system and do they have a backup plan?
- Do all of your agency's responders know who the go-to person is in case of an incident?
- Does key staff have the contact numbers of other key staff (e.g. are staff wallet cards distributed)?
- Does the contact list contain cellular numbers, home personnel cellular numbers, and personnel e-mail addresses for back-up contact?
- Are your state's first responder communications sufficiently interoperable?
- What technical means of communication are available?
- How can your agency cooperate more effectively with law enforcement and other emergency responders?
- Ask to meet with your counterparts at state level from the National Guard, state police, and governor's office of emergency preparedness. Ask what you can do to help them. What barriers do they have with your agency?
- Visit communications/operations centers at the district or local level. What do they expect of you? Who will notify you and provide regular updates during an event?
- Does your staff know whom to notify at the local FHWA office when an incident occurs?
- Has your staff contacted bordering states to obtain contact information from their counterparts?
- Has your staff communicated with local public works (larger counties/cities) to see if they have a response plan? If they have such a plan, does it work with yours?



Training/Exercises

- Does your agency practice and/or train for emergencies?
- When were the last exercises/drills conducted?
- Who is in charge of the exercises?
- What other agencies participated? Were any key agencies NOT present?
- For the drills/exercises in which your agency has taken part, was the role realistic to operations? Is there a need to have someone in on the planning to make them more realistic?

Feedback/Corrective Actions

- Has your agency completed after-action reviews of real-time incidents and exercises/drills?
- What went well, and what are the major areas needing improvement?
- What steps can be taken to identify and prioritize actions for mitigating and managing risks?
- Is your staff aware of the ongoing efforts of AASHTO and TRB as related to security/emergency response?